surface that can be rubbing-oriented as desired while Shiota is an anisotropic (birefringent) film with fixed orientation. It is respectfully submitted that Shiota does not show or suggest applicants' invention. The cited reference requires both the epoxy and the reactive mesogen to have a liquid crystal phase. The film formed by Shiota is anisotropic (birefringent) once formed, with the alignment direction fixed (Shiota - col. 2, lines 23-26). As a result, it cannot be used as an interleaf layer and also as an alignment layer with an alignment direction different from the under layer it is coated on. In contrast, applicants' alignment layer when cured is non-birefringent (isotropic) (Spec - page 5, line 13; page 7, lines 15-20). The resultant epoxy/reactive mesogen mixture and the film as formed have randomly oriented liquid crystals. However, the liquid crystal at the surface of the film can be azimuthally aligned to provide a pre-tilt by rubbing. Further, Shiota is directed to a polymerizable liquid crystalline composition applied to a substrate at significantly elevated temperatures (so it is liquid when applied). When cooled, it forms a solid, oriented film. In contract, applicants' invention uses a solvent based system (claims 54-56) which can be applied at room temperature, avoiding all of potential negative effects on the substrate of the use of elevated temperatures. Applicants' invention can be used in an optical compensator comprising a stack of several birefringent layers with azimuthally alignment directions differing from each other. Shiota cannot. It is therefore respectfully submitted that claim 1, as amended, is clearly distinguished over Shiota and therefore patentable. Accordingly claims 2-6 and new claim 53-56 dependent on claim 1 are clearly patentable.

Claim 6 was rejected under 35 USC §103(a) as obvious over Shiota in that the reference discloses a 25mole % of polymerizable monomers out of 100% (Shiota, col. 2, lines 23-28) and that this then suggests to one of ordinary skill to use 10% to 80% epoxy. It is respectfully asserted that the examiner has mischaracterized the cited passage of Shiota. The cited passage indicates a preferred photopolymerizable liquid crystaline composition with at least 25% of the monomers being dysfunctional and higher functional liquid crystalline monomers. This is not a suggestion as to the epoxy concentration, particularly when the epoxy is not mesogenic.

Claims 53-57 have been added by this amendment, the pending claims comprising claims 1-6 and 53-57. It is respectively submitted that these claims are patentable, fully

supported by the Specification and not shown by the prior art. It is requested that the claims be found to be patentable and a Notice of Allowance be issued.

Respectfully submitted,

February 3, 2003

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MARKED UP CLAIMS AS OF

February 3, 2003 AMENDMENT

1. (Twice Amended) An isotropic alignment layer for a liquid crystal device, comprising a cured polymer film formed from:

an epoxy; and

a reactive mesogen mixed with said epoxy, the reactive mesogen comprising [aligned] liquid crystal molecules,

the cured polymer film having liquid crystals randomly oriented, the surface liquid crystals being subsequently aligned.

MARKED UP CORRECTION TO SPECIFICATION

February 3, 2003

The RM can be any type of reactive crystal material including oligomers or monomers which are monoacrylate or diacrylate. Many types of RMs are commercially available through suppliers such as Merck. The ingredients are mixed and dissolved, preferably in a ketone solvent such as cyclohexanone [,] or MEK/Acetone/cyclopentanone, or toluene [,] or chlorobenzene. The solvent has to be carefully chosen such that it can dissolve a substantial amount of RM and not destroy the alignment of the layer beneath it. Of the above listed [ketone] solvents, chlorobenzene is the least preferred because it is more likely to attack the alignment of a layer beneath it.